November 2, 1998

Reclamation Y2K Embedded Progress Update

(10/30/98 Request from Irv Tubbs / MRPS)

1. Update of percentage of completion:

The attached EMC Readiness Progress report summarizes Reclamation's percent completion in each phase of EMC. The report is based on data maintained in the Reclamation Y2K database in Denver. The database is updated from forms completed and submitted by field offices.

2. Three major examples of non-compliant EMCs:

a. Accusonic Flowmeters (8):

These meters measure water flow and transmit flow information to data acquisition and control systems. These meters will be replaced to make them compliant.

b. Beckwith Relays (16):

These relays monitor the electrical quantities of the generators and cause protective action to occur when sensing problems. The critical protective features of the relays ARE compliant; the non-critical data display features of the relays are the part not compliant.

c. Rustrak Ranger II Dataloggers (7):

Dataloggers record data from a variety of analog and digital sources monitoring temperatures, pressures, flows, liquid levels, etc. The recorded data is used for maintenance recordkeeping and alarm functions within the plant. Data is "date and timestamped" which is sensitive to date problems related to Y2K. These dataloggers will be replaced where feasible.

3. Most recent report:

Previously, we submitted the Reclamation Y2K Embedded Microchip Management Plan (dated August 31, 1998). This report is currently being updated and a revised version will be available by November 16, 1998). For further reference, we are hereby submitting (in hard copy) the following Reclamation documents:

a. Y2K Embedded Microchip Management Plan (dated 8/31/98).
b. Y2K EMC and SCADA System Certification and IV&V Policy and Procedures.
c. Power and Water Operations and Maintenance Y2K Contingency Planning and Management Guide.

4. Monthly bureau embedded reports:

The attached EMC Readiness Progress report is our monthly report provided to Reclamation management. In addition, we provide weekly and biweekly EMC activities reports to senior management.

Reclamation Year 2000 (Y2K)
Embedded Microchip (EMC) Readiness Report
October 28, 1998

Overview of Activities

Many actions have taken place for the Awareness Phase which will continue throughout the EMC Program. The Assessment Phase, which primarily includes the inventory, is essentially complete. At this point, most of the EMC Program activities are focused on completing the Testing, Renovation, Validation, and Contingency Planning Phases. More specifically, the Validation Phase is important since it includes an "independent validation and verification" (IV&V) of all work done during other phases. For this reason, the EMC Technical Advisory Group (TAG) plans to physically inspect, on average, two to three significant facilities in each region. To date, the TAG has inspected three facilities, with two others planned during the month of November. In addition, plans are developing for regional IV&V inspection teams for remaining facilities.

Summary of Status

Awareness	EMC Program information and data are maintained on a web site. Several fact sheets were developed and news articles written and/or published. Presentations on the EMC Program and potential Y2K problems have been given to many audiences, including Reclamation O&M Managers. In addition, the *Year 2000 Embedded Microchip Management Plan* is updated and redistributed periodically.
Inventory Status	Reclamation's EMC inventory is approximately 98 percent complete. The remaining 2 percent involves minimal finalization of the process including collecting documentation from non-Reclamation entities and filling in some existing data gaps.
Mission Critical	Of the EMC inventory, 47 percent are listed as mission critical, and only 12 percent of those are currently identified as non-compliant. There are 82 SCADA devices and systems identified, and of those, 83 percent are compliant.
Y2K Compliance	In terms of year 2000 compliance, 73 percent of the devices and systems have documentation on file in the Denver Office.
Renovation	Only 4 percent of the EMC devices and systems inventoried are scheduled for renovation, with a total estimated cost of $908,225 for non-compliant equipment.

Contingency Plans Of the inventory, about 34 percent of the equipment had reported that an EMC contingency plan was devised thus far. Eventually, each mission-critical EMC will have a contingency plan. Reclamation-wide contingency planning was recently developed in the draft *Reclamation Power and Water Facilities Operations and Maintenance Y2K Contingency Planning and Management Guide.*

IV&V Inspections

Region	Facility	Inspection Dates
LC Region	Hoover Dam	June 4-5, 1998
PN Region	Grand Coulee Dam	Sept. 2-3, 1998
MP Region	NCAO - Shasta Dam	Sept. 21-23, 1998
GP Region	Yellowtail Dam	November 5, 1998
GP Region	ECAO - Joint Op. Center	November 16, 1998
LC Region	Colorado River Stor. Proj.	To be determined
PN Region	Columbia Basin	To be determined
LC Region	Central Arizona Project	To be determined
UC Region	Central Utah Project	To be determined
All	SCADA Sites	To be determined

*Data**

EMC Inventory	
Number of Devices or Systems	**890**
Estimated Percent Complete (Due date 11/1/98)	**98%**
Percent Mission Critical Percent not Y2K compliant Percent with no response	**47%** 12% 7
Number of SCADA Devices and Systems Percent compliant	**82** 83%
EMC Y2K Compliance Certification	
Percent of EMC Certifications on File Percent with IV&V signature line completed	**73%** 7%
EMC Renovation	
Percent Was or To Be Renovated Renovation dollar amount total for non-compliant equipment	**4%** $908,225
EMC Contingency Plans Received	

Percentage of EMCs Contingency Plan Received (Due date 11/1/98)	**34%**

* Data are current as of October 27, 1998.